R E P O R T R E S U M E S

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SOME EFFECTS OF PERCEPTION TRAINING IN KINDERGARTEN ON FIRST GRADE SUCCESS IN READING.

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A STUDY OF KINDERGARTEN PERCEPTION WAS MADE TO DETERMINE IF A FORMAL PROGRAM IN PERCEPTION IN KINDERGARTEN WOULD CONTRIBUTE TO THE GROWTH OF PERCEPTION IN CHILDREN AT THE END OF THE KINDERGARTEN YEAR AND TO SUCCESS AT THE FIRST-GRADE LEVEL. FOURTEEN KINDERGARTEN CLASSES WERE CHOSEN AT RANDOM FOR A CONTROL GROUP, AND 14 CLASSES WERE CHOSEN AT RANDOM FOR AN EXPERIMENTAL GROUP. THE CHILDREN, FROM A LARGE SCHOOL DISTRICT IN NORTHERN CALIFORNIA, WERE RANDOMLY ASSIGNED TO ALL CLASSES. EACH SUBJECT WAS GIVEN THE WINTERHAVEN PERCEPTION ABILITY FORMS TEST IN SEPTEMBER AND MAY OF THE KINDERGARTEN YEAR TO DETERMINE GROWTH IN PERCEPTION AND WAS TESTED WITH THE GATES WORD RECOGNITION TEST IN NOVEMBER AND MAY OF THE FIRST GRADE TO DETERMINE GROWTH IN READING ABILITY. TEACHERS WERE CHOSEN AT RANDOM FOR THE CLASSES AND WERE MATCHED ON YEARS OF EXPERIENCE AND TEACHING COMPETENCE. EACH OF THE KINDERGARTEN CONTROL AND EXPERIMENTAL GROUP TEACHERS RECEIVED INSERVICE TRAINING ON THE USE OF KINDERGARTEN GUIDES FROM BOTH COUNTY AND DISTRICT. THE EXPERIMENTAL GROUP OF TEACHERS RECEIVED ADDITIONAL TRAINING IN TEACHING PERCEPTION SKILLS. DATA WERE ANALYZED BY CHI SQUARE AND INDICATED SIGNIFICANTLY GREATER GROWTH IN THE EXPERIMENTAL GROUP IN BOTH PERCEPTION AND WORD RECOGNITION ACHIEVEMENT WHEN COMPARED TO THE CONTROL GROUP. SOME KINDERGARTEN TECHNIQUES CONSIDERED VALUABLE AND CHARTS AND FIGURES ARE PROVIDED. THIS PAPER WAS PRESENTED AT THE INTERNATIONAL READING ASSOCIATION CONFERENCE (SEATTLE, MAY 4-6, 1967). (BK)

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SOME EFFECTS OF PERCEPTION TRAINING IN KINDERGARTEN ON FIRST GRADE SUCCESS IN READING

MARION NEAL FAUSTMAN

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The purpose of the study was to investigate some effects of selected kindergarten lessons in perception upon first-grade reading achievement in twenty-eight kindergartens in a large school district in northern California.

Thirty-two kindergarten classes were tested with the Winterhaven Perception Ability Forms Test and the Goodenough Draw-A-Man Test in September of the year. Out of these, fourteen classes were chosen at random for a control group and fourteen classes were chosen for an experimental group. The children had been randomly assigned to all classes. The P.A.F.T. was given again in May to determine growth in perception.

The following year the children from the experimental group entered first grades on the basis of thirteen to eighteen children per class. The teacher did not know which children had received which training. The classes were given a Gates Primary Word Recognition Test in November and another form of the same test the last week of May.

Teachers were chosen at random for either the control or experimental classes from a group of twenty-two teachers, matched as to years of experience and teaching competence. Each of the kindergarten control and experimental group teachers received in-service training on the new kindergarten guides from both county and district; also in-service in the area of development of language skills in kindergarten children was given all teachers taking

part in the experiment. The experimental group of teachers received training in teaching perception skills over and above the guide and language training.

The perception training consisted of the use of materials and methods advocated by Frostig, Strauss, and Kephart, as well as materials and methods suggested by the author. Teacher-made materials, following the five areas of visual perception labeled by Dr. Marianne Frostig as: Visual-Motor, Figure-Ground, Position-In-Space, Form Constancy, and Spatial Relations, were also utilized.

The Winterhaven program for perception was added with template training and form recall. Template training was planned for no more than three times a week.

Manipulating objects to ascertain relative size, shape, and texture, classififying into ordinate categories, and simple coding were also taught.

Chart No. 1 illustrates that perception training was added to the other kindergarten areas of language development, and the learnings outlined in the guide formed the base for both the experimental and regular kindergarten programs.

When the experimental class teachers became conscious of perception development, they often incorporated training in perception in traditional kindergarten activities; such as, rhythms, block design, bead stringing, and building blocks. Body schematic exercises became a part of rhythmic activities, and block design, bead stringing, and building blocks were manipulated

into patterns to match increasingly complicated designs made specifically for the children to follow.

KINDERGARTEN SEPTEMBER TEST RESULTS

The Goodenough test of intelligence indicated the control group averaged 101 and the experimental group, 99. The difference was not significant. P.A.F.T. results showed the control group averaged 53.49 in September (Figure I), at which time the test group scored 34.79 (Figure III). Such a deviation could occur in any group, as both scores fall within the normal range, and it is a happenstance in favor of the control group. The largest growth in percpetion appeared at the 40 to 45 range, and there were more children in this perception range in the control group than in the experimental group. Using chi square formula, the difference is significant to the .01 *level (Figure V2).*

KINDERGARTEN MAY TEST RESULTS

The control group scored 62.16 in perception on the P.A.F.T. (Figure II) and the experimental group scored 69.79 on the P.A.F.T. (Figure IV). The final difference in growth between the two groups for the year is shown in Figure IVa. Using chi square formula, the difference is not significant (Figure Vb). The score, however, indicates a rise in average for the experimental group of 35 perception points as compared to only 9.67 average perception points for the control group.

FIRST GRADE TEST RESULTS

First grade findings indicate the control group increased from a Gates work survey raw score average of 8.69 or 1.8 grade level in November to 14.14 raw score average or 2.06 grade level in May (Figure VI).

The experimental group showed a growth in mean score on the Gates Word Recognition test from 16.27 raw score average or 2.13 grade level in November (Figure VI) to 23.40 raw score average or 2.3 grade level in May (Figure VIII).

Using chi square formula (Figure Xa), the significant difference in November is at the .01 level. Using the same formula (Figure Xb), the May score also shows a significant difference to the .01 level in favor of the experimental classes.

It should be noted, in this context, that the test group final score distribution figure has a bell pattern or normal probability curve. The reason the other score distribution charts in Figures VI, VII, and VIII did not follow the pattern of Figure V was due to the impossibility of procuring degrees of zero.

OTHER FINDINGS

The experimental group obtained greater gains throughout the study due to the effect of perception training in the kindergarten. In order to carry out the perception training, the following activities were necessary:

(1) Diagnosis of children's learning needs in kindergarten;

(2) Individualization of instruction;

(3) Teacher gains in knowledge of child growth and development and perception of young children as part of their total growth pattern; (The teachers mentioned this as the most important factor in their individual growth as teachers.)

(4) Teachers' encouragement if children desired to experiment with words and simple syntax;

(5) Encouragement to read in other places a given word, after recognizing it once.

(The experimental group of children asked for a word in a book more than three times as often as did those children in the control group.)

Children were taught reading when ready from a growth standpoint, and their time was not wasted with pre-reading at the first-grade level unless it was necessary for the particular child.

CONCLUSIONS OF THE STUDY

A rigorous study in kindergarten perception was made to determine if a formal program in perception in kindergarten would contribute to the growth of perception in children at the end of the kindergarten year and contribute to success at the first-grade level.

The children, chosen randomly and placed in two groups of fourteen, were each given the P.A.F.T. in September and May of the kindergarten year

to determine growth in perception and tested with the Gates Word Recognition Test in November and May of the first grade to determine growth in reading ability.

Test results indicated significantly greater growth in the experimental group in both perception and word recognition achievement when compared to the control group. These differences favored the experimental group at the .01 level.

OBSERVATIONS PERTINENT TO THE STUDY

The teachers felt pressure in teaching the entire program in a half-day-session kindergarten. It was generally felt that it would be easier in a full-day-session kindergarten, but there were none in the particular district which was the locale of the study. Lacking the opportunity of a full-day-session kindergarten, a pre-school program feeding into a perception-oriented, language experience kindergarten may help both the child to learn effectively and the teacher to instruct effectively. Growth in perception, creativity, and communication skills might be the goal of the kindergarten and pre-school programs.

The following kindergarten techniques were considered particularly valuable, although time-consuming on the part of the teacher:

(1) Analyzing growth patterns of children and grouping according to needs;

(2) Individualizing instruction;

(3) Constantly evaluating children's progress;

(4) Preparing manipulative work outside classroom hours;

(5) Preparing work, outside of classroom hours, to increase verbal and creative skills;

(6) Learning new ways of doing familiar lessons;

(7) Planning activities on a very flexible three-to-six group basis during the day (which meant extra planning and organization).

Every day perception lessons, including templates, author-made perception training activities, Frostig exercises, as well as manipulative techniques, were part of the curricula offerings.

Body schematic exercises were given to the children by the teacher, and the relative position of objects in relation to the child's own body was part of the daily teaching assignment. Directionality techniques not only helped the child orient himself to his environment but also helped him to develop dominance.

Building blocks and bead stringing, according to patterns, was also used to strengthen perception. Cut and paste work, as well as art techniques, also added to needed skills. With these techniques, and many others, the children developed some of the skills necessary for successful reading.

A post study will be made to determine if the children taking part in the study and remaining in the school district continue to progress at their present more advanced academic level as compared with others who did not have this type of kindergarten training.

CHART I

DIFFERENCE BETWEEN EXPERIMENTAL AND REGULAR KINDERGARTEN PROGRAM

	PERCEPTION TRAINING
LANGUAGE	EXPERIENCE
KINDERGARTEN	GUIDE
REGULAR KINDERGARTEN	EXPERIMENTAL KINDERGARTEN

FIGURE I

P.A.F.T. RESULTS, SEPTEMBER CONTROL KINDERGARTENS

FREQUENCY DISTRIBUTION CHART

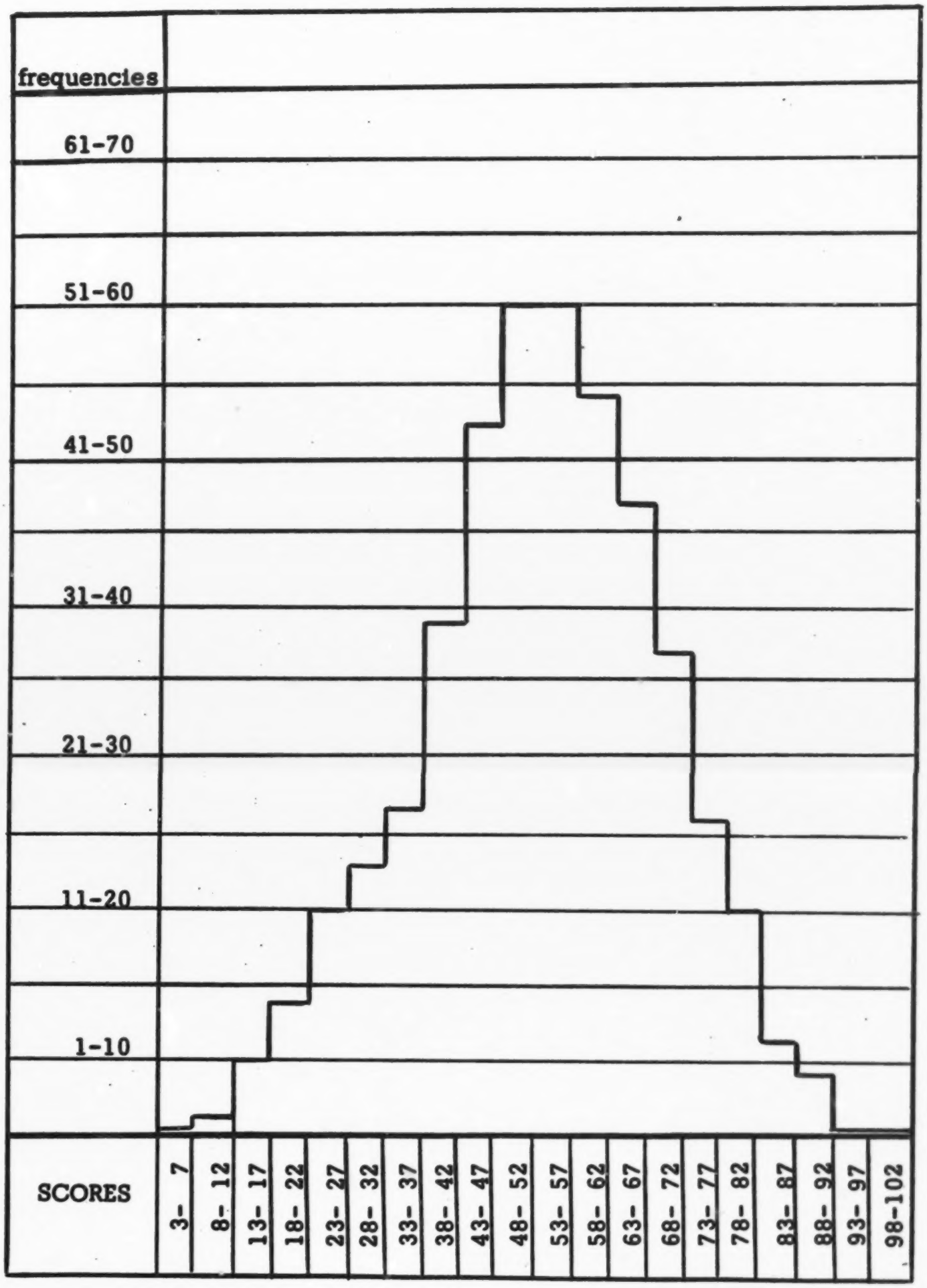


FIGURE II

P.A.F.T. RESULTS, MAY, CONTROL KINDERGARTNERS
FREQUENCY DISTRIBUTION CHART

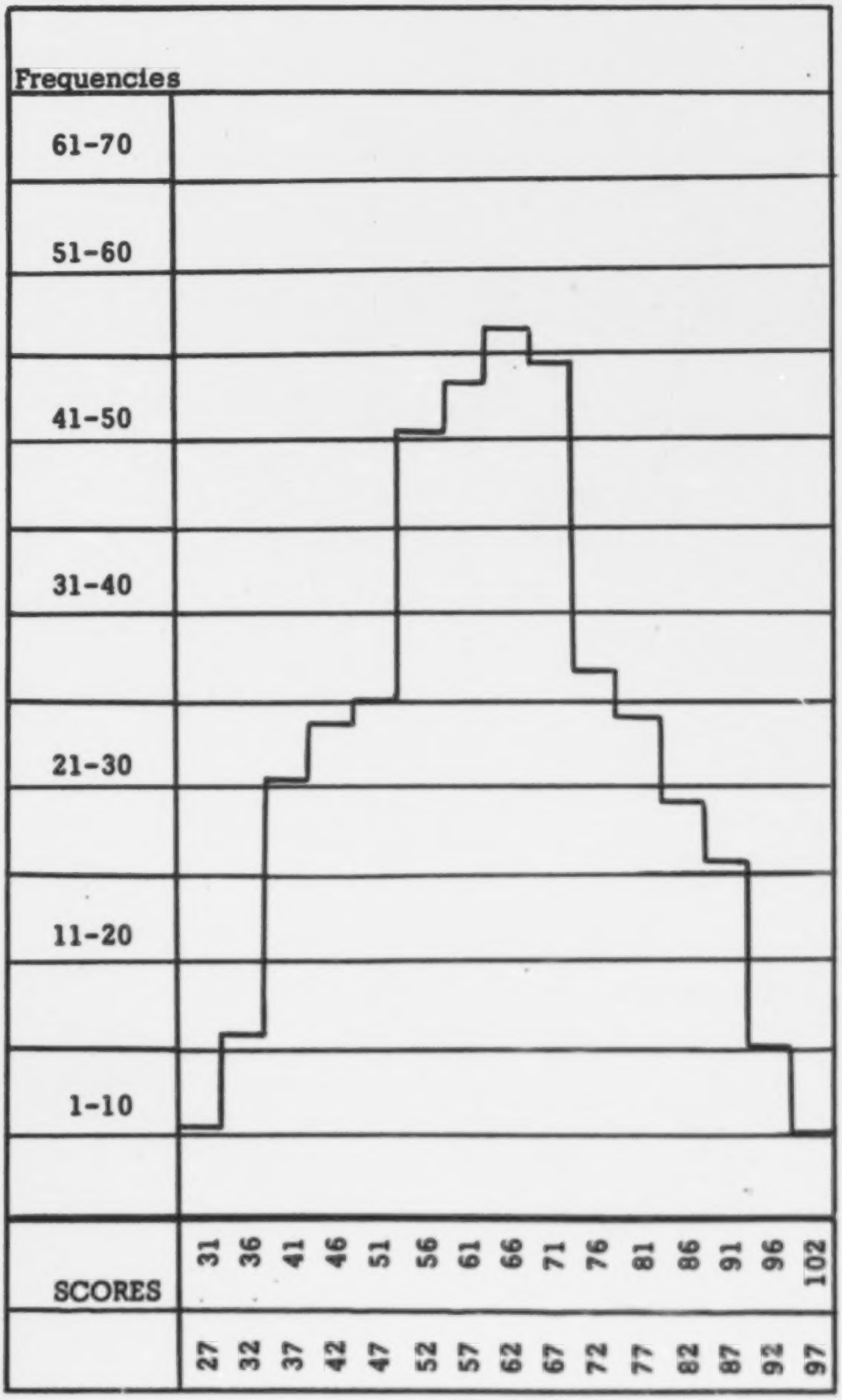


FIGURE III

P.A.F.T. RESULTS, SEPTEMBER, TEST KINDERGARTNERS

FREQUENCY DISTRIBUTION CHART

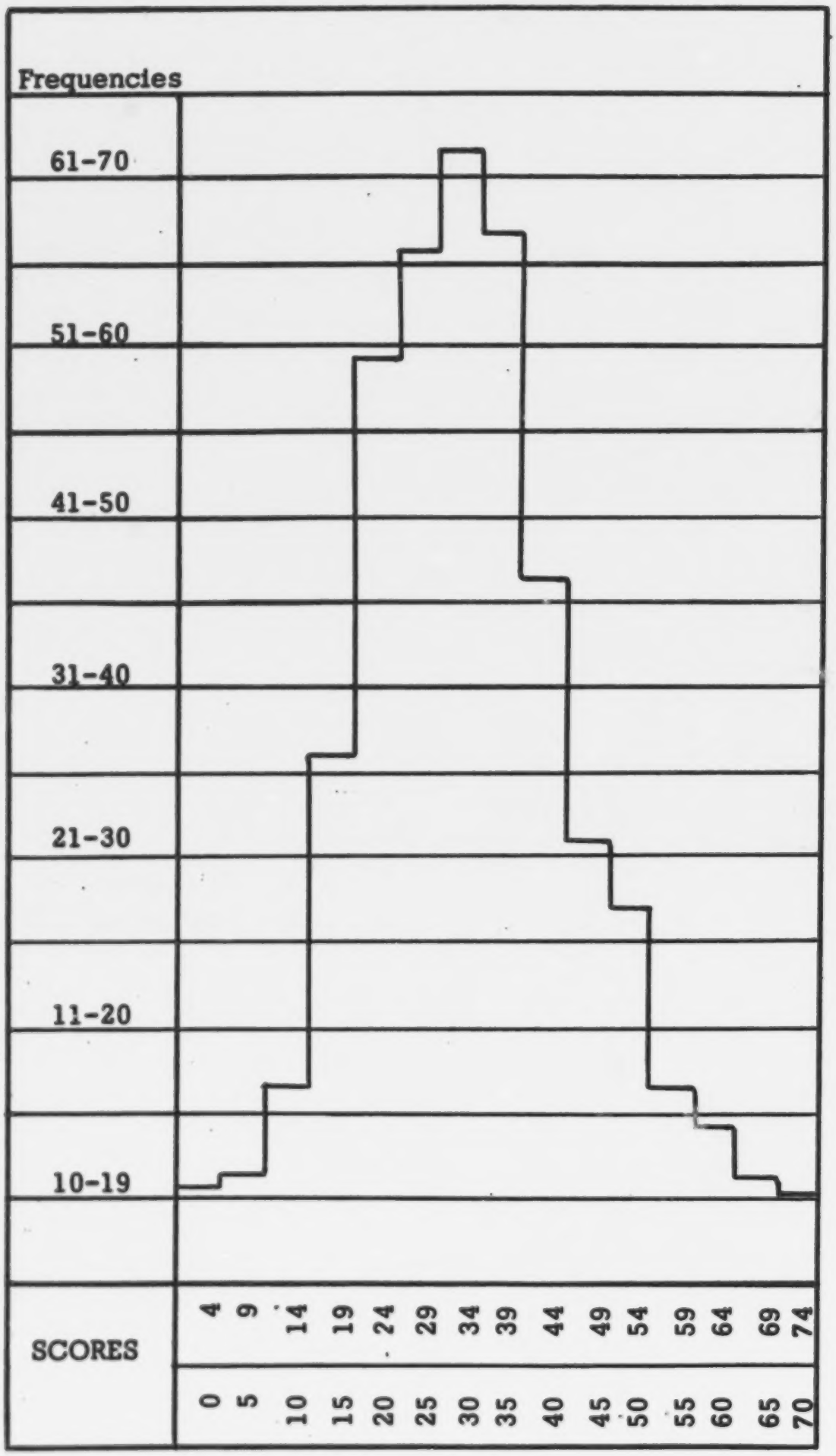


FIGURE IV
P.A.F.T. RESULTS, MAY, TEST KINDERGARTNERS
FREQUENCY DISTRIBUTION CHART

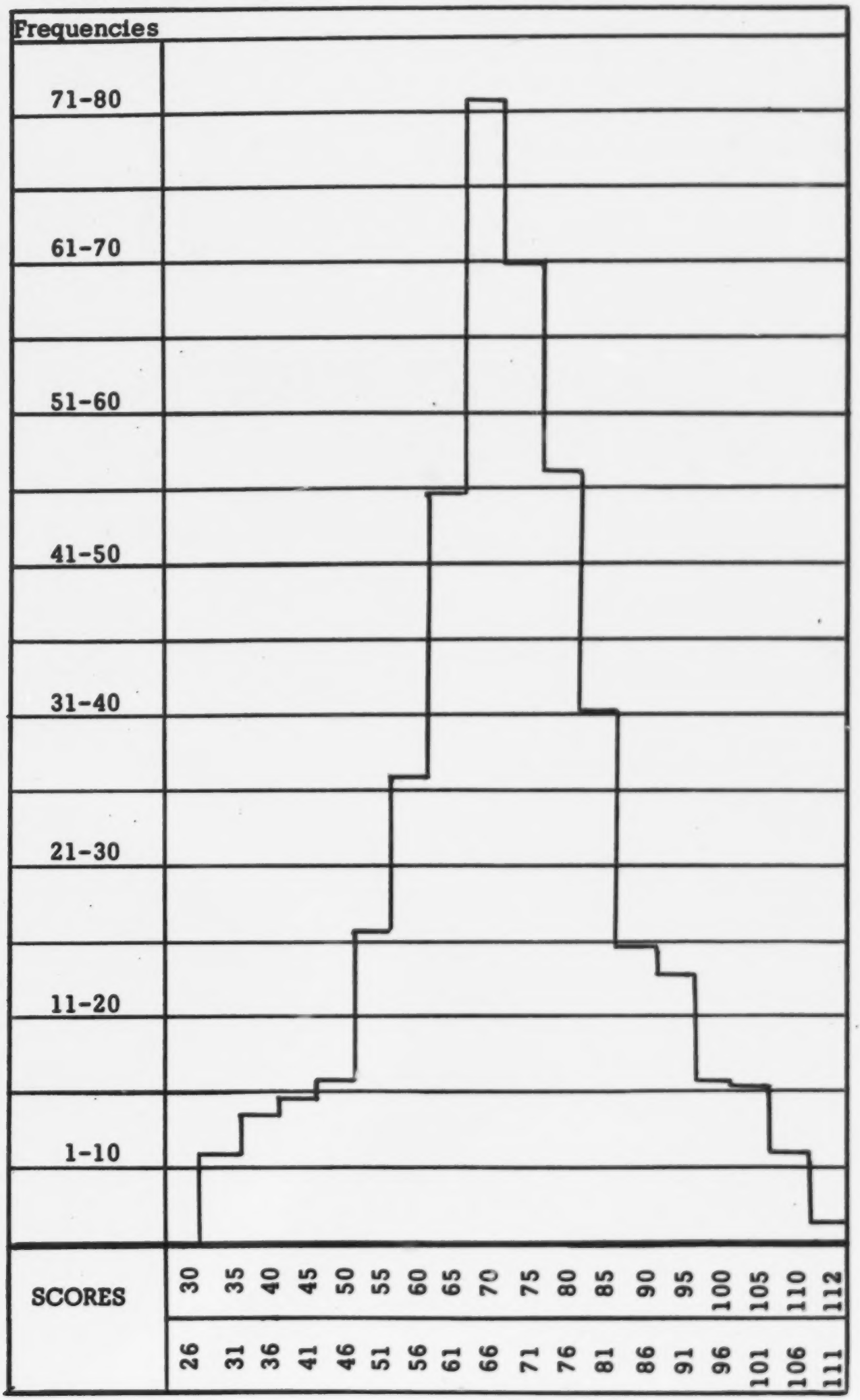


FIGURE IVa
P.A.F.T., MAY, TEST RESULTS

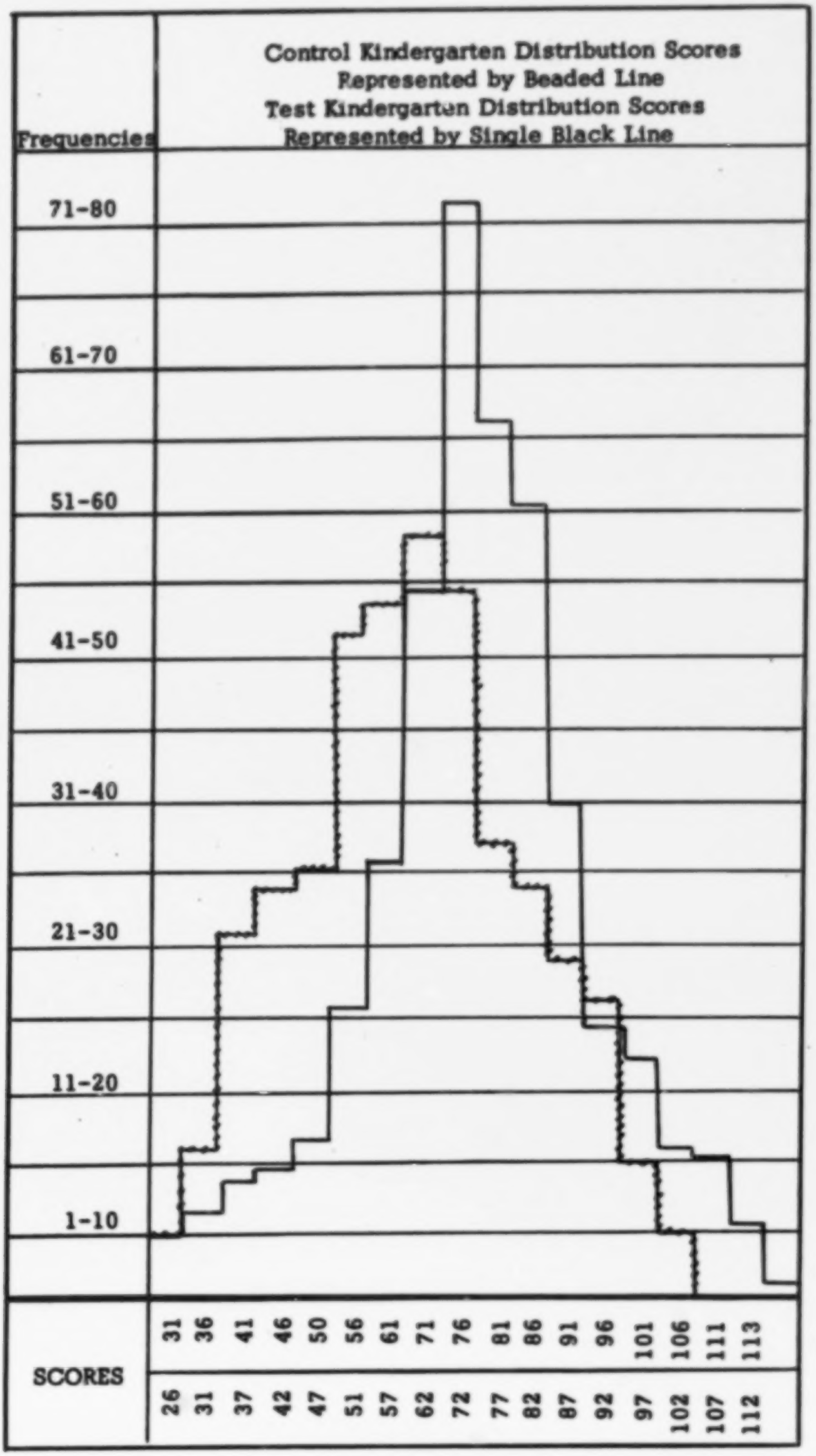

Frequencies
Control Kindergarten Distribution Scores Represented by Beaded Line
Test Kindergarten Distribution Scores Represented by Single Black Line
71-80
61-70
51-60
41-50
31-40
21-30
11-20
1-10
SCORES
31 36 41 46 50 56 61 71 76 81 86 91 96 101 106 111 113
26 31 37 42 47 51 57 62 72 77 82 87 92 97 102 107 112

Figure Va

FROM P.A.F.T. SCORES IN SEPTEMBER

Test	Control	
a 86	b 309	Above Median
c 342	d 125	Below Median
428	434	N - 862 Grand Mean 44.16

Chi Square Formula $x^2 = \frac{N((bc-ad) - N/2)^2}{(a+c)(b+d)(a+b)(c+d)}$

$x^2 = \frac{862 (309.342-86.125) - 862/2)^2}{(86+342)(309+125)(86+309)(342+125}$

x^2= 224.45 Significant to over the .01 level

Figure Vb

FROM P.A.F.T. SCORES IN MAY

Test	Control	
a 252	b 165	Above Median
c 176	d 256	Below Median
428	421	N - 849 Grand Mean = 67.49

$x^2 = \frac{849 (165.176-252.256) - 849/2)^2}{(252+176)(165+256)(252+165)(176+256)}$

x^2= 29.79 Not Significant

FIGURE VI
GATES WORD RECOGNITION TEST
NOVEMBER RESULTS
CONTROL GROUP
FREQUENCY DISTRIBUTION CHART

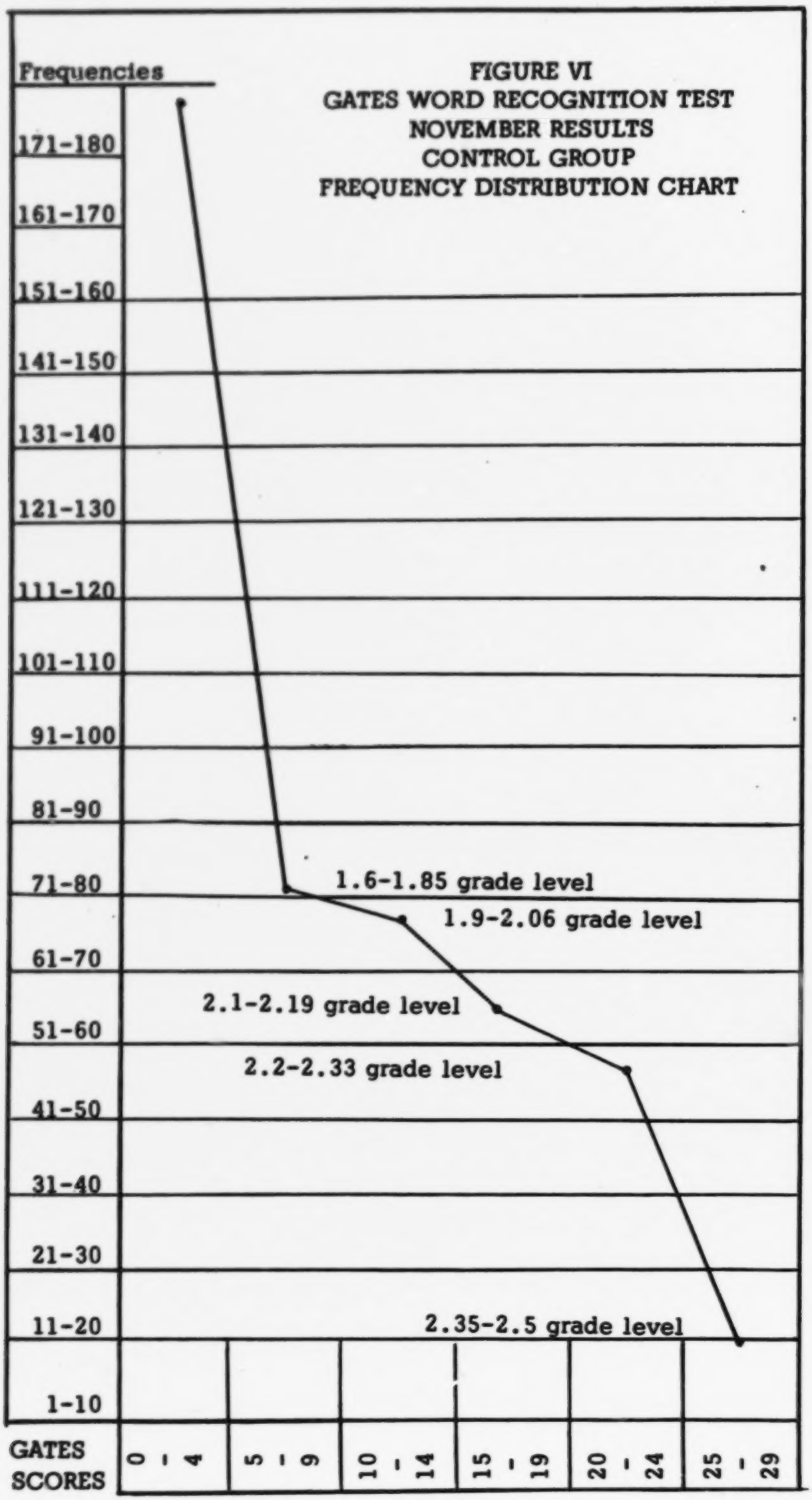


FIGURE VII
GATES WORD RECOGNITION TEST
MAY RESULTS
CONTROL GROUP
FREQUENCY DISTRIBUTION CHART

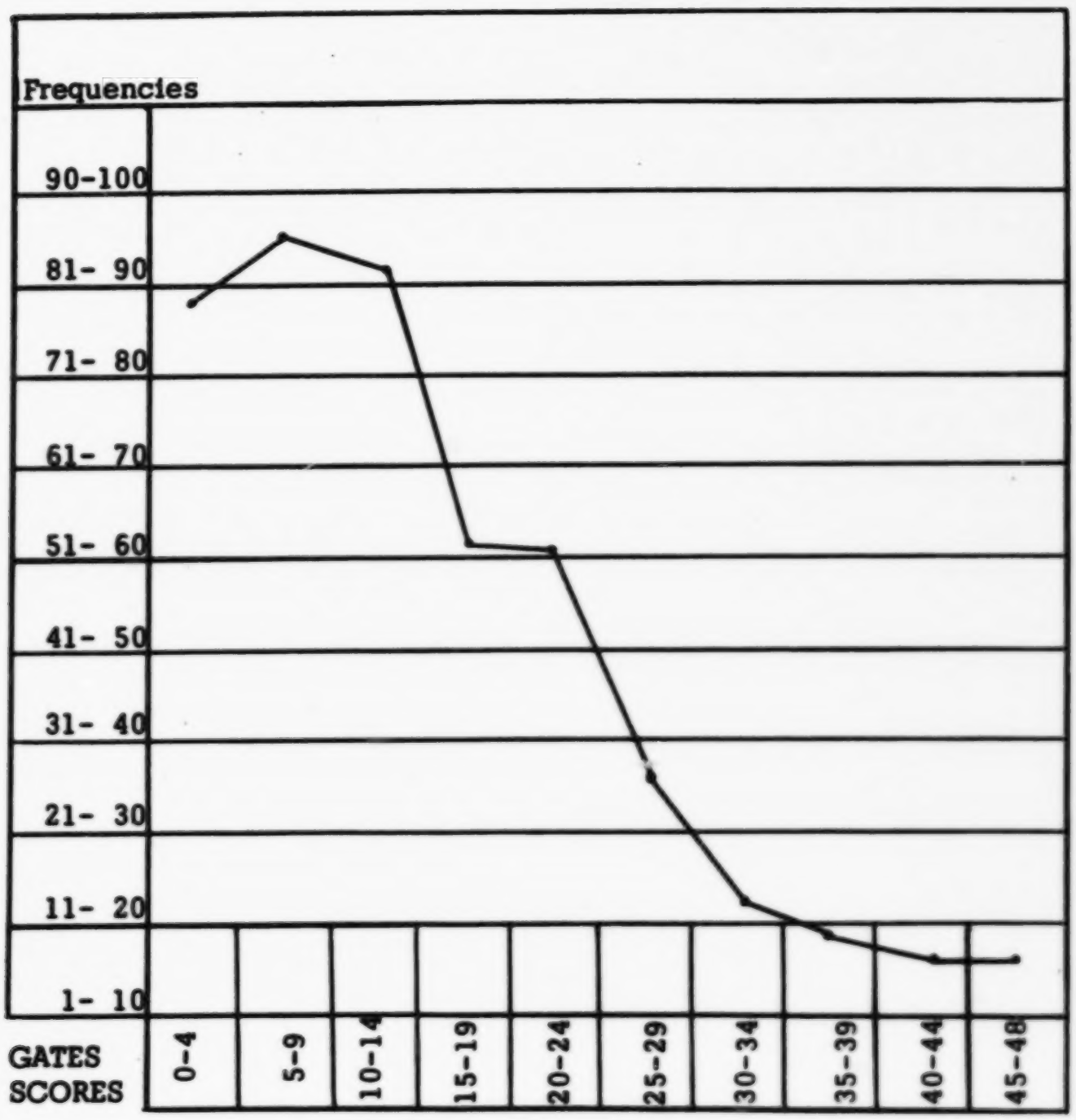


FIGURE VIII
GATES WORD RECOGNITION TEST, NOVEMBER RESULTS
TEST GROUP
FREQUENCY DISTRIBUTION CHART

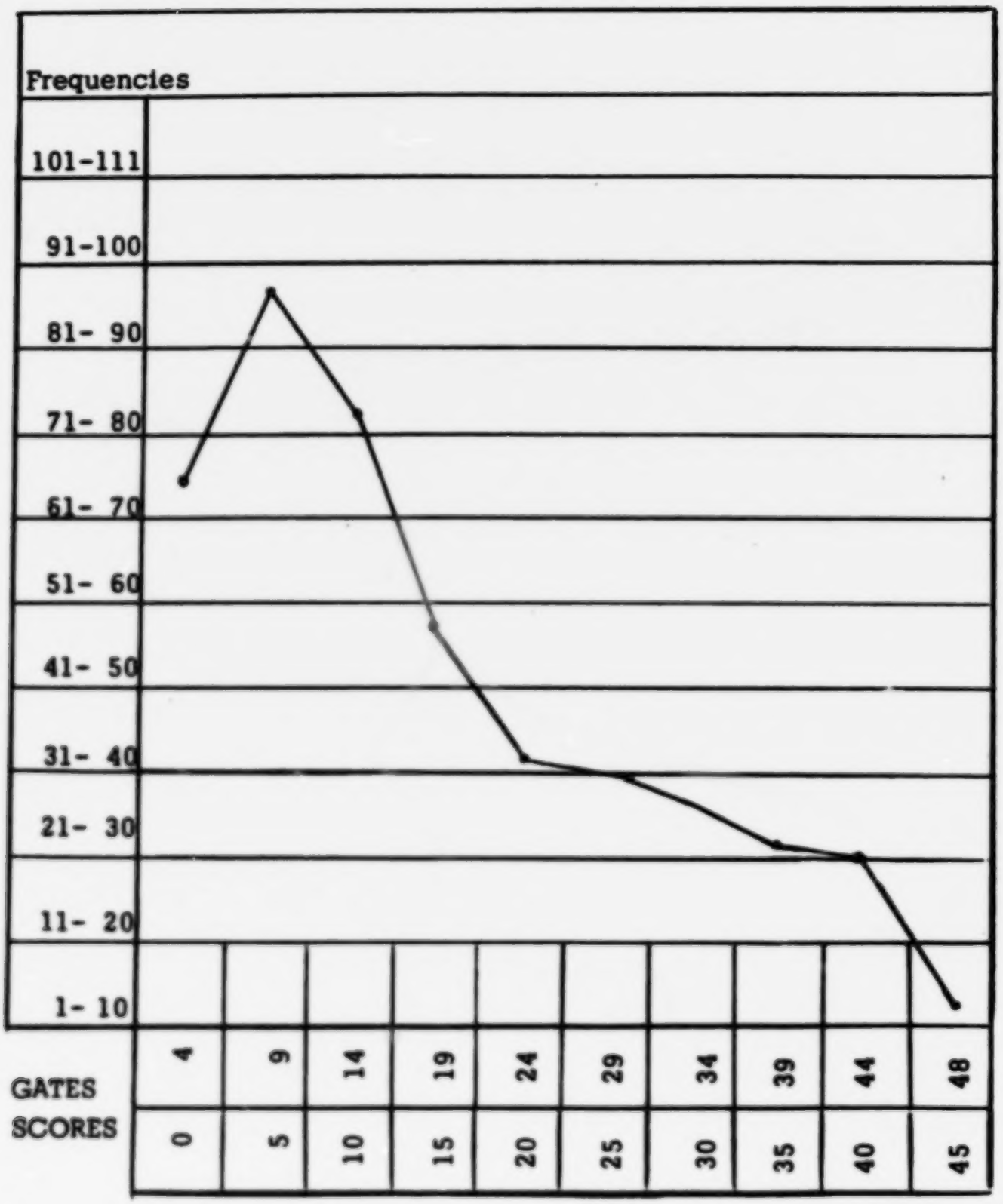


FIGURE IX
GATES WORD RECOGNITION TEST, MAY RESULTS
TEST GROUP
FREQUENCY DISTRIBUTION CHART

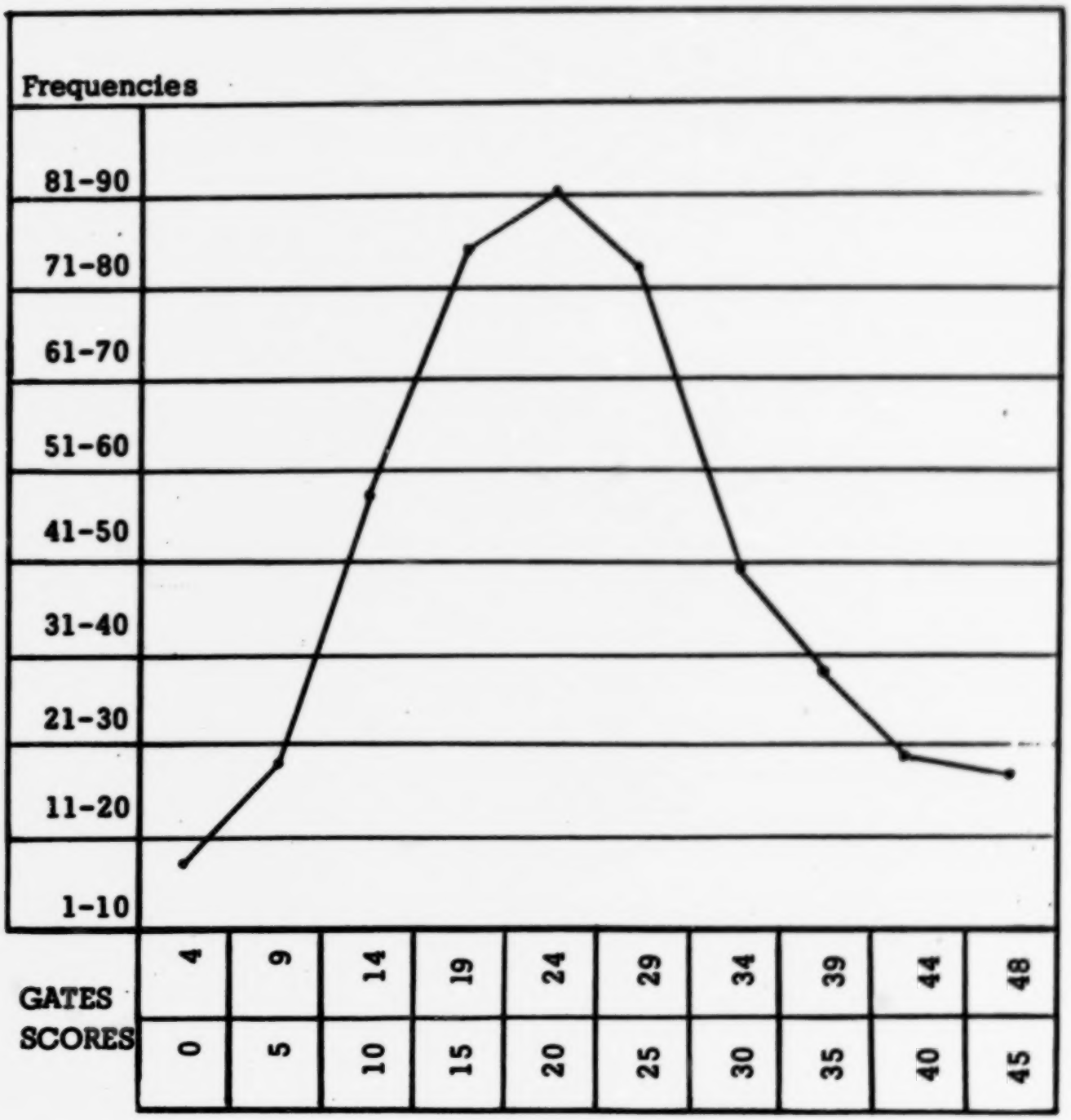
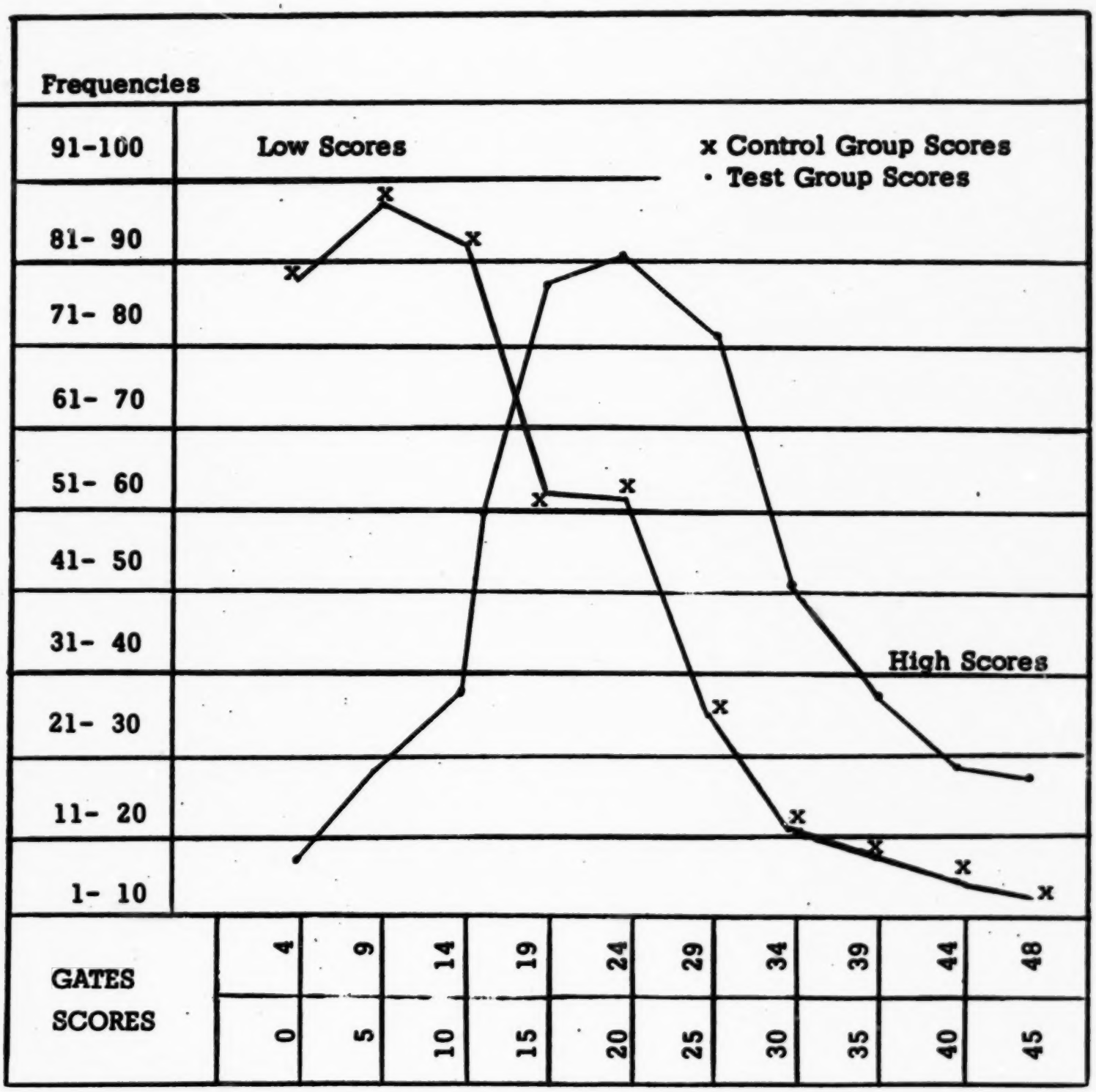


FIGURE IXa
GATES WORD RECOGNITION TEST, MAY RESULTS
FOR
CONTROL AND TEST KINDERGARTEN GROUPS



GATES WORD RECOGNITION TEST RESULTS IN NOVEMBER

Figure Xa

Test	Control	
a 241	b 175	Above Median
c 177	d 251	Below Median
418	426	N = 844 Grand Mean = 12.48

Chi Square Formula $X^2 = \frac{(N(bc-ad) - N/2)^2}{(a+b)(b+d)(a+b)(c+d)}$

$X^2 = \frac{844\ (175.177-241.251) - 844/2^2}{(241+177)(175+251)(241+175)(177+251)}$

$X^2 = 225$ Significant to over the .01 level

GATES WORD RECOGNITION TEST RESULTS IN MAY

Figure Xb

Test	Control	
a 282	b 129	Above Median
c 134	d 289	Below Median
416	418	N = 834 Grand Mean = 18.77

$X^2 = \frac{834\ (129.134-282.289) - 834/2^2}{(282+134)(129+289)(282+129)(134+289)}$

$X^2 = 807$ Significant to over the .01 level